FEDERAL ENERGY REGULATORY COMMISSION
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Division of Dam Safety and Inspections
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June 14, 2006

In reply refer to:
P-10482-NY - Swinging Bridge Dam
NATDAM ID No. NY00696

Mr. Kevin J. McLeod
Mirant NY-GEN, LLC
140 Samsondale Avenue
West Haverstraw, New York 10993

Dear Mr. McLeod:

This letter concerns the final remediation plan for the Swinging Bridge Dam Safety Remediation Project at the Swinging Bridge Project (No. 10482-NY) in Forestburgh, Sullivan County, New York. We are accepting the design elements of the final remediation plan that we expect will address the safety issues identified with as a result of the sinkhole that developed in the crest of the Swinging Bridge Dam on May 5, 2005. As discussed further below, the final plan calls for the construction of a filter and drainage system in the embankment dam, measures to rehabilitate the penstock and diversion tunnel and evaluate crest seepage, and the installation of crest wave protection for extreme flood events. Construction activities on the filter and drainage system will begin immediately, and are expected to be completed prior to the end of the year. Work to complete the grouting from with the penstock has begun.

Once the above work is completed authorization for a controlled refilling of the reservoir can be provided before the end of 2006. Comments concerning the currently revised reservoir refilling plan are included in Enclosure 2. The Division of Dam Safety and Inspections (D2SI) staff will remain closely involved in monitoring the project to ensure that the final remediation plan is implemented in accordance with the reservoir refilling plan and in a timely manner, and is safely accomplished.

More specifically, through this letter, you are authorized to proceed with remediation work included in Work Package 5 – Conduit Filter and Embankment Toe Drain submitted on October 11, 2005, and modified based on our comments provided in

our October 17, 2005 letter. Updated drawings were submitted on June 1 and reviewed and revised at the June 2, 2006 BOC meeting. The work is authorized to proceed based on these drawings to be modified to incorporate comments from the meeting. Your submittal includes the Construction Quality Control Inspection Program and Instrumentation Monitoring and Response Plan (IMRP). The work under Phase I that included dewatering wells and sheetpile enclosure was authorized by our letter dated January 27, 2006. We understand that you are in the process of making the selection of the sub-contractor that will perform the construction. It is expected that this work will be completed by November, 2006.

Since the development of the sink hole, D2SI staff has been working closely with NY-GEN, along with outside expert assistance through the Board of Consultants, to investigate and analyze the cause of the sink hole in the dam. Work to remediate the dam embankment to date has included excavating a portion of the crest of the embankment and replacing the material removed with compacted embankment material, grouting from within the access tunnel that lies under the penstock, installing dewatering wells to maintain a lowered phreatic surface through the embankment dam, and grouting from within the penstock. The final steps needed to complete the remediation effort involve construction of a filter within the embankment and a series of blanket and toe drains to control seepage. Also included within the final plan will be work to perform a thorough assessment of the penstock to determine any potential additional remediation that may be required to correct deficiencies in the penstock. The monitoring of the dam performance will continue as discussed during the June 2nd Board of Consultants (BOC) meeting.

During the June 2nd BOC meeting and in response to a previous request from the BOC, Schnabel Engineering presented the design criteria for selection of the conduit filters, and bid drawings. These drawings were revised to respond to some of the comments included in our October 17, 2005 and January 27, 2006 letters. We have not received a response to our comments regarding the Technical Specifications and IMRP, however it was agreed during the BOC meeting that the filter layers should be revised to be no less than one foot-thick. Schnabel representatives indicated that they would be preparing a detailed response to our comments including comments discussed during the BOC meeting.

Enclosure 1 to this letter is a copy of our letter dated December 21, 2005 that provides information regarding construction reports and certification needed during and at completion of this work. Considering that the conduit filter includes excavation at the toe please submit a Temporary Emergency Action Plan before the work starts.

A *Draft* Reservoir Refilling Plan (RRP) was submitted by your consultant Mr. Adam Jones by email on April 28, 2006. Comments to the Draft RRP are included in Enclosure 2 of this letter. In addition, as discussed during the recent BOC meeting, the

RRP should include specific monitoring and an action plan for any seepage that could occur on the embankment above the top of the embankment core. Please revise and resubmit the RRP. Reservoir filling is not to begin until completion of the conduit filter and embankment toe filter, and you receive authorization from FERC. Close visual and instrumentation monitoring of the embankment dam, penstock, and access tunnel will continue. Once the penstock assessment and required remediation are completed, the frequency of instrumentation monitoring and visual inspections can be reviewed.

The penstock and tunnel rehabilitation was discussed during the June 2, 2006 BOC meeting. It was agreed that a schedule for the condition assessment of the penstock would be submitted within two weeks from the date of the BOC meeting. The penstock and tunnel will remain open for monitoring during reservoir refilling, and their remediation should be reassessed at the time when the reservoir is filled based on the dam's response to filling. Based on the conclusions from the condition assessment, a determination will be made as to what repairs are necessary to restore the penstock for power generation or for the installation of a low level outlet. We concur with the BOC that the penstock condition assessment should proceed immediately and a decision regarding any additional remediation of the penstock and access tunnel should be made in connection with the refilling of the reservoir and without any unnecessary delay. Your schedule should provide for the timely resolution of this issue.

In summary, the major elements of the final remediation plan include:

- *Conduit Filter* – A filter and drain will be constructed at the downstream end of the conduit. The conduit filter will consist of installation of filter material in a braced excavation that will extend to a level at or below the base of the conduit. The excavation will require dewatering and retention measures to maintain a stable excavation. The underside of the conduit will be grouted.

- *Embankment Toe Filter* – A filter and drain will be constructed along the toe of the right and left embankment sections. The filter will be installed in an unbraced excavation at the toe of the slope. In addition, a localized filter will be installed on the west side of the powerhouse.

- *Penstock and Diversion Tunnel Rehabilitation* – The penstock and diversion tunnel will remain open for access and monitoring during the refilling of the reservoir and the stabilization of the dam. Additional repairs of the tunnel and penstock will be undertaken depending on the final intended use of the penstock and the assessment is completed.

- *Crest Seepage and Crest Wave Protection* -- Crest wave protection will be provided by adding parapet rock on the upstream side of the crest road. Crest seepage will be evaluated as part of the reservoir refilling operation.

- *Filling of the Reservoir* – The refilling of the reservoir will begin upon completion of the construction of the conduit filter and embankment toe filter, and after we authorize Mirant to do so.

Finally, we note that the flood studies submitted by NY-GEN's experts have been reviewed and our comments are included in a letter to you dated June 13, 2006. As explained in that letter, based on the comprehensive evaluation of the hydrology and hydraulics of the Mongaup River Basin, FERC staff have determined that the NY-Gen project dams in the Mongaup River system satisfy the Commission's requirements for handling a major flood event, so long as the final remediation plan required for the Swinging Bridge Dam is implemented. More specific details are provided in the June 13, 2006 letter.

This letter should be forwarded to the BOC members. Please revise the specifications and drawings for construction as cited and as discussed during the BOC meeting and submit them within 15 days of the date of this letter.

Sincerely,

Constantine G. Tjoumas, P.E.
Director, Division of Dam Safety & Inspections

Enclosures

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